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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,393	04/01/2004	Virinder Mohan Batra	CHA920040003US1	9578

23550 7590 08/11/2006

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EXAMINER

SMITH, CAROLYN L

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/816,393

Applicant(s)

BATRA ET AL.

Examiner

Carolyn L. Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 04012004.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

### **DETAILED ACTION**

Claims herein under examination are 1-20.

Drawings, filed 4/1/04, are accepted by the Examiner.

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR § 1.821 (a)(1) and (a)(2). See for example, pages 6 and 7 of the specification. However, this application fails to comply with the requirements of 37 CFR § 1.821 through 1.825, because it lacks SEQ ID Nos cited along with each sequence in the specification. Applicant(s) are required to submit a computer readable form sequence listing, and a paper copy, or CD-ROM incorporated by reference into the specification, statements under 37 CFR § 1.821 (f) and (g), if there is a need to list additional sequences in the sequence listing. Applicant(s) are given the same response time regarding this failure to comply as that set forth to respond to this office action. Failure to respond to this requirement may result in abandonment of the instant application or a notice of a failure to fully respond to this Office Action.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Under the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (published in the O.G. notice (1300 OG 142) on 11/22/2005) a method, system, and program product that does not result in a physical transformation of matter MAY be statutory where it recites a concrete, tangible and useful result; i.e. a practical application.

In the instant case, the claims are directed to a system and method for securing an electronic transmission of a nucleotide chain as well as program products for encoding and decoding a nucleotide chain. As the program product is not necessarily a physical object, it is not automatically statutory. Whether the program product claims are statutory therefore rests on whether the method/program is statutory. In the instant case, the means limitations of the program products as well as the system and method do not result in a physical transformation of matter, nor is any concrete, tangible and useful result produced/recited. Therefore, these claims are not statutory.

***Claims Rejected Under 35 U.S.C. § 112, Second Paragraph***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

The preamble of claim 1 recites a system for securing an electronic transmission of a nucleotide chain; however, the body of the claim does not recite any type of transmission. Therefore, it is unclear if the preamble or the body of claim 1 is controlling the metes and bounds of this claim. Clarification of this issue via clearer claim wording is requested. Claims 2-7 are also rejected due to their dependency from claim 1.

Claims 1-7 recite “a system for” limitations that are vague and indefinite. It is unclear what structural limitations are intended for the system as these are only “intended use” limitations. Clarification of this issue via clearer claim wording is requested.

Claims 3 and 4 recite the limitation “the system for transmitting encrypted coding regions and unencrypted non-coding regions” in lines 1-2 of each claim. There is insufficient antecedent basis for this limitation in the claim as there is no previous mention of such a system in claim 1. Clarification of this issue via clearer claim wording is requested.

The preamble of claim 8 recites “securely transmitting” whereas the body of the claim merely recites “transmitting” without any security. It is unclear if the preamble or the body of

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the claim controls the metes and bounds of this claim. Clarification of this issue via clearer claim wording is requested. Claims 9-13 are also rejected due to their dependency from claim 8.

### ***Claim Rejections – 35 USC §102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-12, 14, 15, 17, 18, and 20 are rejected under 35 USC 102(b) as being anticipated by Rungsarityotin et al. (Pure Appl. Chem., 2002, Vol. 74, No. 6, pages 891-897).

Rungsarityotin et al. disclose a grid-enabling software technology with a grid security system and method featuring a security infrastructure to transform bioinformatics genomic data from different sites to a standard format (page 892, last three paragraphs and Figure 1) including visualizing, analyzing, and transporting XML-based DNA data (abstract) which represents a security system for securing an electronic transmission of a nucleotide chain, as stated in the preamble of claims 1 and 8. Rungsarityotin et al. disclose exchanging information on a particular gene or coding regions (abstract), integrating a physical map of BAC sequence from a rice chromosome (Figure 2), using BAC-end sequences and BAC fingerprint contigs and linking critical regions of interest onto a sequence-ready map (page 894, first paragraph) which represents identifying coding and non-coding regions in the nucleotide chain, as stated in instant

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claims 1, 8, 14, and 17. Rungsarityotin et al. disclose using expressed sequence tags (ESTs) treated as genes and marker names (i.e. AP002882 and RZ69) (in Figure 2 and page 894, first paragraph) along the sequence with non-coding regions merely listed as a line (Figure 2) which represents selectively encrypting only the coding regions identified in the nucleotide chain, as stated in instant claims 1, 8, 14, and 17. Rungsarityotin et al. disclose transporting these XML-based DNA data and using a Web browser and Web-based viewer (abstract and Figure 2), as stated in instant claims 2-4, 8, 11, 12, 15, and 18. Rungsarityotin et al. disclose grid technologies and recording DNA sequencing data in computerized databases to facilitate analysis, storage and retrieval and creating a database containing the encrypted and unencrypted non-coding regions as discussed above (page 892, fourth paragraph; page 893, last two paragraphs to page 894, first paragraph; and Figure 2) which represents receiving, as stated in instant claims 6, 7, 9.

Rungsarityotin et al. disclose visualizing DNA (abstract), transforming data (page 892, third and fifth paragraph), and choosing between textual and graphical output and transforming XML documents to scalable vector graphics (Figure 2 caption) which represents decrypting and regenerating, as stated in instant claims 6, 9, and 17. Rungsarityotin et al. disclose a system involving converting algorithms to convertible code such as Java for data acquisition, translation, and distributing computational tasks (page 896, second paragraph). Rungsarityotin et al. disclose using the grid data structure and query engine to respond to specific bioinformatics questions including a database for nucleotide chain queries (page 894, last paragraph to page 896, first paragraph), as stated in instant claims 7, 10, and 20. Rungsarityotin et al. disclose computers (Figure 1), Internet2 (abstract), data structures, software technologies, programs, storage

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systems, files, and databases (page 892, last four paragraphs and page 893, last paragraph), which represents a program product as stated in instant claims 14, 15, 17, 18, and 20.

Thus, Rungsarityotin et al. anticipate claims 1-4, 6-12, 14, 15, 17, 18, and 20.

### ***Claim Rejections – 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. (e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 5, 13, 16, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rungsarityotin et al. (Pure Appl. Chem., 2002, Vol. 74, No. 6, pages 891-897) as applied to claims 1-4, 6-12, 14, 15, 17, 18, and 20 above, and further in view of Jorgensen et al. (US 2004/0221163 A1).



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Rungsarityotin et al. describe the limitations of claims 1-4, 6-12, 14, 15, 17, 18, and 20, as stated above. Rungsarityotin et al. do not describe using cipher block chain encrypting.

Jorgensen et al. describe methods, systems, and program products on readable media for securing transmitting data using an encryption scheme (abstract and 0085) including cipher block chaining (0033), as stated in instant claims 5, 13, 16, and 19. Jorgensen et al. describe algorithms for encryption and decryption (0069).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method, system, and program products of Rungsarityotin et al. by use of cipher block chaining as described by Jorgensen et al. where the motivation would have been to improve the security, stability, efficiency, and flexibility of secure data transmission and application sharing over a network, as taught by Jorgensen et al. (0018 and 0019).

Thus, Rungsarityotin et al. in view of Jorgensen et al. make obvious the instant invention.

### ***Conclusion***

No claim is allowed.

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR §1.6(d)). The Central Fax Center number for official correspondence is (571) 273-8300.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carolyn Smith, whose telephone number is (571) 272-0721. The examiner can normally be reached Monday through Thursday from 8 A.M. to 6:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang, can be reached on (571) 272-0811.

Any inquiry of a general nature or relating to the status of this application should be directed to Legal Instruments Examiner Yolanda Chadwick whose telephone number is (571) 272-0514.

August 2, 2006

A handwritten signature in black ink, appearing to read 'Carolyn Smith', with a stylized flourish at the end.

Carolyn Smith  
Examiner  
AU 1631